

LISTING OF CLAIMS

1. (Previously Presented) A method for laser drilling of organic materials, comprising:

using a frequency-doubled Nd-vanadate laser for the laser drilling, wherein the laser includes the following laser parameters,

pulse width < 40 ns,

pulse frequency ≥ 20 kHz, and

wavelength = 532 nm.
2. (Previously Presented) The method as claimed in claim 1, wherein a laser pulse width of < 30 ns is used.
3. (Previously Presented) The method as claimed in claim 1, wherein a focused laser beam with a spot diameter of between 10 μm and 100 μm is used.
4. (Previously Presented) The method as claimed in claim 3, wherein a focused laser beam with a spot diameter of between 20 μm and 40 μm is used.

5. (Previously Presented) The method as claimed in claim 1, wherein additives which absorb laser beams with a wavelength of 532 nm are admixed with the organic material.

6. (Previously Presented) The method as claimed in claim 5, wherein at least one of an inorganic pigment, an organic pigment, at least one polymer-soluble dye and at least one fibrous filler is used as the additive.

7. (Previously Presented) The method as claimed in claim 6, wherein at least one of an inorganic red pigment and one organic red pigment and one polymer-soluble red dye is used as the additive.

8. (Previously Presented) The method as claimed in claim 6, wherein between 0.1% by weight and 5.0% by weight of pigments are admixed with the organic material.

9. (Previously Presented) The method as claimed in claim 6, wherein between 1% by weight and 2% by weight of pigments are admixed with the organic material.

10. (Previously Presented) The method as claimed in claim 5, wherein the organic material has, as a result of the admixing of the additives, a degree of absorption of at least 50% for the wavelength 532 nm of the laser radiation.

11. (Previously Presented) The method as claimed in claim 5, wherein the organic material has, as a result of the admixing of the additives, a degree of absorption of at least 60% for the wavelength 532 nm of the laser radiation.

12. (Previously Presented) The method as claimed in claim 5, wherein the organic material has, as a result of the admixing of the additives, a degree of absorption of at least 80% for the wavelength 532 nm of the laser radiation.

13. (Previously Presented) A device for the laser drilling of organic materials, comprising:

a frequency-doubled Nd-vanadate laser with the following laser parameters,

pulse width < 40 ns,

pulse frequency \geq 20 kHz, and

wavelength = 532 nm.

14. (Previously Presented) The method as claimed in claim 2, wherein a focused laser beam with a spot diameter of between 10 μm and 100 μm is used.

15. (Previously Presented) The method as claimed in claim 14, wherein a focused laser beam with a spot diameter of between 20 μm and 40 μm is used.

16. (Previously Presented) The method as claimed in claim 7, wherein between 0.1% by weight and 5.0% by weight of pigments are admixed with the organic material.

17. (Previously Presented) The method as claimed in claim 7, wherein between 1% by weight and 2% by weight of pigments are admixed with the organic material.

18. (Previously Presented) The method as claimed in claim 6, wherein the organic material has, as a result of the admixing of the additives, a degree of absorption of at least 50% for the wavelength 532 nm of the laser radiation.

19. (Previously Presented) The method as claimed in claim 7, wherein the organic material has, as a result of the admixing of the additives, a degree of absorption of at least 50% for the wavelength 532 nm of the laser radiation.

20. (Previously Presented) The method as claimed in claim 8, wherein the organic material has, as a result of the admixing of the additives, a degree of absorption of at least 50% for the wavelength 532 nm of the laser radiation.

21. (Previously Presented) The method as claimed in claim 9, wherein the organic material has, as a result of the admixing of the additives, a degree of absorption of at least 50% for the wavelength 532 nm of the laser radiation.

22. (Previously Presented) The method as claimed in claim 6, wherein the organic material has, as a result of the admixing of the additives, a degree of absorption of at least 60% for the wavelength 532 nm of the laser radiation.

23. (Previously Presented) The method as claimed in claim 7, wherein the organic material has, as a result of the admixing of the additives, a degree of absorption of at least 60% for the wavelength 532 nm of the laser radiation.

24. (Previously Presented) The method as claimed in claim 8, wherein the organic material has, as a result of the admixing of the additives, a degree of absorption of at least 60% for the wavelength 532 nm of the laser radiation.

25. (Previously Presented) The method as claimed in claim 9, wherein the organic material has, as a result of the admixing of the additives, a degree of absorption of at least 60% for the wavelength 532 nm of the laser radiation.

26. (Previously Presented) The method as claimed in claim 6, wherein the organic material has, as a result of the admixing of the additives, a degree of absorption of at least 80% for the wavelength 532 nm of the laser radiation.

27. (Previously Presented) The method as claimed in claim 7, wherein the organic material has, as a result of the admixing of the additives, a degree of absorption of at least 80% for the wavelength 532 nm of the laser radiation.

28. (Previously Presented) The method as claimed in claim 8, wherein the organic material has, as a result of the admixing of the additives, a degree of absorption of at least 80% for the wavelength 532 nm of the laser radiation.

29. (Previously Presented) The method as claimed in claim 9, wherein

the organic material has, as a result of the admixing of the additives, a degree of absorption of at least 80% for the wavelength 532 nm of the laser radiation.

30. (Previously Presented) A method for laser drilling of metallic materials, comprising:

using a frequency doubled Nd-vanadate laser for the laser drilling, wherein the laser includes the following laser parameters:

pulse width <40 ns,

pulse frequency \geq 30 kHz, and

wavelength = 532 nm.

31. (Previously Presented) The method as claimed in claim 30, wherein a laser pulse width of less than 30 ns is used.

32. (Previously Presented) The method as claimed in claim 30, wherein a focused laser beam with a spot diameter of between 10 μm and 100 μm is used.

33. (Previously Presented) The method as claimed in claim 32, wherein a focused laser beam with a spot diameter with 20 μm and 40 μm is used.

34. (Previously Presented) A device for the laser drilling of metallic

materials, comprising:

a frequency doubled Nd-vanadate laser with the following laser parameters:

pulse width <40 ns,

pulse frequency ≥ 30 kHz, and

wavelength = 532 nm.

35. (Previously Presented) The method as claimed in claim 34, wherein a focused laser beam with a spot diameter of between 10 μm and 100 μm is used.

36. (Previously Presented) The method as claimed in claim 35, wherein a focused laser beam with a spot diameter with 20 μm and 40 μm is used.